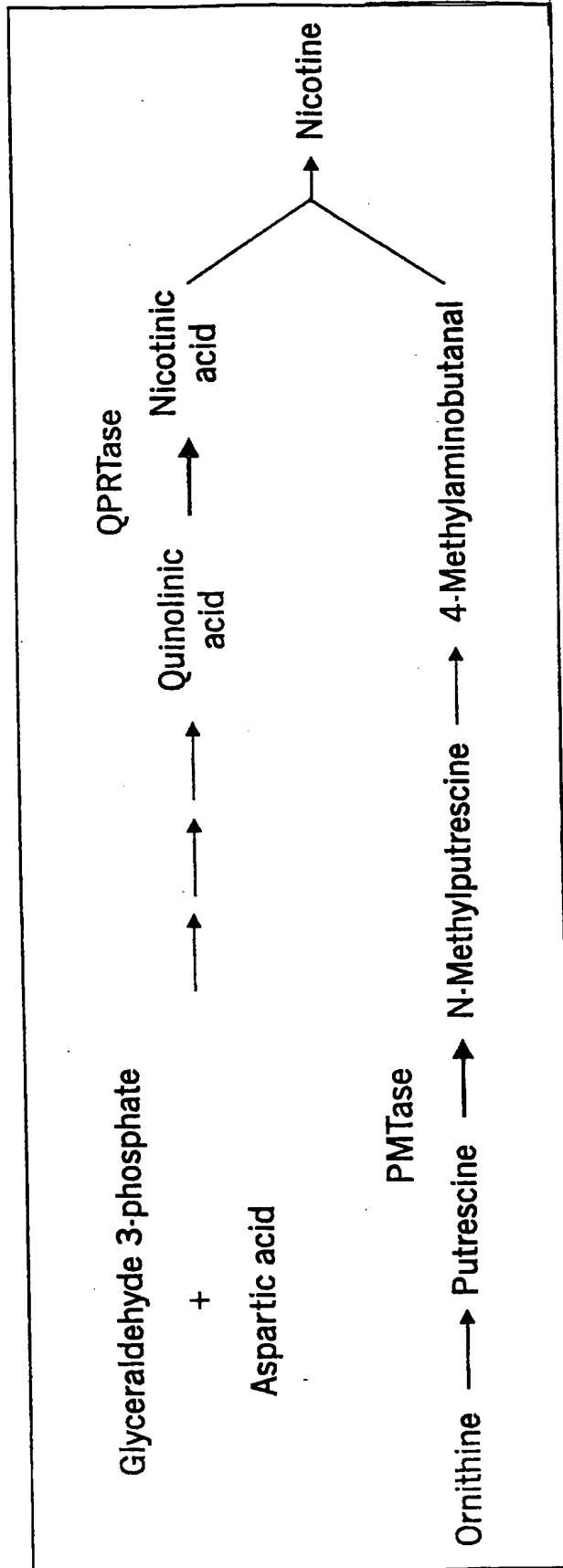
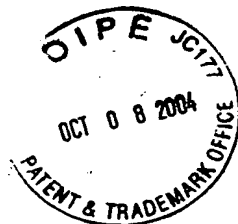




FIG. 1





Replacement Sheet

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caaaaactat tttccacaaa attcatttca caaccccccc aaaaaaaaaac cATGTTTAGA 60
GCTATTCCTT TCACTGCTAC AGTGCATCCT TATGCAATTA CAGCTCCAAG GTTGGTGGTG 120
AAAATGTCAG CAATAGCCAC CAAGAATACA AGAGTGGAGT CATTAGAGGT GAAACCACCA 180
GCACACCCAA CTTATGATTT AAAGGAAGTT ATGAAACTTG CACTCTCTGA AGATGCTGGG 240
TTTCTAGCAA AGGAAGACGG GATCATAGCA GGAATTGCAC TTGCTGAGAT GATATTCGCG 360
GAAGTTGATC CTTCAATAAA GGTGGAGTGG TATGTAAATG ATGGCGATAA AGTTCATAAA 420
GGCTTGAAAT TTGGCAAAGT ACAAGGAAAC GCTTACAACA TTGTTATAGC TGAGAGGGTT 480
GTTCTCAATT TTATGCAAAG AATGAGTGGG ATAGCTACAC TAACTAAGGA AATGGCAGAT 540
GCTGCACACC CTGCTTACAT CTTGGAGACT AGGAAAACTG CTCCTGGATT ACGTTTGGTG 600
GATAAATGGG CGGTATTGAT CGGTGGGGGG AAGAATCACA GAATGGGCTT ATTTGATATG 660
GTAATGATAA AAGACAATCA CATATCTGCT GCTGGAGGTG TCGGCAAAGC TCTAAAATCT 720
GTGGATCAGT ATTTGGAGCA AAATAAACTT CAAATAGGGG TTGAGGTTGA AACCAGGACA 780
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atgtgttaca atgaaaatac ttgatttata agtttgggtg atgtaaaatt ctgtgttact 1380
tcaaatattt tgagatggt 1399

FIGURE 2A

MFRAIPFTAT VHPYAITAPR LVVKMSAIAT KNTRVESLEV KPPAHPTYDL 50
KEVMKLALSE DAGNLGDVTC KATIPLDMES DAHFLAKEDG IIAGIALAEM 100
IFAEVDPSLK VEYVNDGDK VHKGLKFGKV QGNAYNIVIA ERVVLNFMQR 150
MSGIATLTKE MADAAHPAYI LETRKTAPGL RLVDKWAVLI GGGKNHRMGL 200
FDMVMIKDNH ISAAGGVGKA LKSVDQYLEQ NKLQIGVEVE TRTIEEVREV 250
LDYASQTKTS LTRIMLDNMV VPLSNGDIDV SMLKEAVELI NGRFDTEASG 300
NVTLETVHKI GQTGVTYISS GALTHSVKAL DISLKIDTEL ALEVGRRTKR 350
A 351

FIGURE 2B



Replacement Sheet

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N. tabacum	MFRAIPFTATVHPYAITAPRLVVKMSAIATKNTRVESLEVKPPAHTYDL
R. rubrum	*-----RPNH-----PVAALS*F-----AI
M. leprae	*-----LSDC-----EFDAAR-----
S. typhimurium	*-----PPRR*NPDDR*-----DALL*RINLDI*A-----AV
E. coli	*-----PPRR*NPDR*-----DELL*RINLDI*G-----AV
H. sapien	*-----D*EG*ALLLPVTLAALVDSWLREDC*G-----
S. cerevisiae	*-----PVYE-HLLPVNGAWRQDVTNWLSEDEV*S-----
N. tabacum	KEVMKLALSEDAGNLGDVTCKATIPLDMESDAHFLAKEDGIIAGIA----
R. rubrum	D*AVRR**A**L*RA**I*ST*****AATRAH*RFV*RQP**L**LGCA--
M. leprae	-DTIRR**H**LRYGL*I*TQ**V*AGTVVTGSMVPR*P*VIAGVDVALL
S. typhimurium	AQALREDLGGEVDAGN*I*AQL-L*A*TQAH*TVITR*D*VF----CGKR
E. coli	AQALREDLGGTVDANN*I*A*L-L*ENSR*H*TVITR*N*VF----CGKR
H. sapien	-----LNYAALVSGAGP*QAALWAKSP*VL----AGQP
S. cerevisiae	-----FDFGGYVVGSDLKEANLYCKQD*ML----CGVP
N. tabacum	-LAEMIFAEVDPSLKVEWYVNDGDKVHKGLK-----FGKVQGNAYNIVI
R. rubrum	--RSAF-ALLDDTVFTTTPLE**AEIAA*QT-----VAE*A*A*RT*LA
M. leprae	VLD*VF-GVDGYRVLY--R*E**ARLQS*QP-----LLTVQAA*RGLLT
S. typhimurium	WVE*VFIQLAGDDVRLT*H*D***AI*ANQT-----VFELN*PARVLLT
E. coli	WVE*VFIQLAGDDVTII*H*D***VINANQS-----LFELE*PSRVLLT
H. sapien	FFDAIFTQL---NCQVS*FLPE*S*LVPVAR-----VAEVR*P*HDL
S. cerevisiae	FAW*VFNQC---ELQVE*LFKE*SFLEPSKNDSGKIVVAKIT*P*K**LL
N. tabacum	AERVVLNFMQRMSTGIATLTKEAD--AAH--PAYILETRKTAPGLRLVDK
R. rubrum	***TA***LGHL*****R*RRFG*AI*HT--R*RLTC*****T*****GLE*
M. leprae	***TM***VCHM*****V*VAWV*AVRGT--K*KIRD*****L*****ALQ*
S. typhimurium	G**TA***V*TL**VASEVRRYVGLL*GT--QTQL*D*****L*****TAL*
E. coli	G*PTA***V*TL**VASKVRHYVELLEGT--NTQL*D*****L*****SAL*
H. sapien	G***A***TLARC*****SAAAAVEAARGAGWTGHVAG*****T**F***E*
S. cerevisiae	***TA**ILSRS*****TASHKIISLARSTGYKGTIAG*****T*****RLE*
N. tabacum	WAVLIGGGKNHRMGLFDMVMIKDNHISAAGGVGKALKSVDOYLEQNKLOI
R. rubrum	Y**RC***S***F**D*A*L*****AVA***SA**SRAR-AGVGHMVRI
M. leprae	Y**RV***V***L**G*TAL*****VA*V*S*VD**RA*R-AAAPEL-PC
S. typhimurium	Y***C***A***L**T*AFL*****I*S*S*RQ*VEKAF-W*HPD-APV
E. coli	Y***C***A***L**S*AFL*****I*S*S*RQ*VEKAS-W*HPD-APV
H. sapien	YGL*V**AAS**YD*GGLVML*D**VVP***EK*VRAARQ---AADFAL
S. cerevisiae	YSM*V**CDT**YD*SS**ML*D***W*T*SITN*V*NARA---VCGFAV

FIGURE 3



Replacement Sheet

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N. tabacum	GVEVETRTIEEVREVL DYASQTKTSLTRIMLDNMVVPLSNGDIDVSMKE
R. rubrum	EI*****L*QLA***AVGGAEV-----VL*****DAPT-----*TR
M. leprae	E*****S--L*QLDAM*A-EEPEL-----*L***F--*VWQTQV-----AVQ
S. typhimurium	E*****N--LDELDDA*K-*GADI-----*****F-----NTDQ----MR*
E. coli	E*****N--L**LD*A*K-*GADI-----*****F-----ETEQ----MR*
H. sapien	K****CSSLQ**VQAAE-*GADL-----VL***F-----KPEELHPTAT
S. cerevisiae	KI***CLSED*AT*AIE-*GADV-----*****F-----KGDGLK*CAQ

N. tabacum	AVELI---NGRFDTEASGNVTLETVHKIG-QTGVTYISSGALTHSVKALD
R. rubrum	**DMV---A**LV*****G*S*D*IAALA-ES**D***V*****TT**
M. leprae	RRDIR---APTVLL*S**GLS**NAAIYA-G***DYLAV*****RI**
S. typhimurium	**KRV---**QARL*V*****AE*LREFA-E***DF**VG*****R***
E. coli	**KRT---**KALL*V*****DK*LREFA-E***DF**V*****Q***
H. sapien	*LKAQFPSVA---VEA**GIT*DNLPQF-CGPHIDV**M**M**QA*P***
S. cerevisiae	SLKNKWNGKKHFLLEC**GLN*DNLEEYLCD-DIDIY*TSSIHQGTPVI*

		<u>% Identity</u>	<u>% Similarity</u>
N. tabacum	ISKLIOTELALEVGRRTKRA		
R. rubrum	*G*D*VVA-----PPKAERA	15.9	43.2
M. leprae	*G*DL	18.3	37.3
S. typhimurium	LSMRFC	18.2	34.8
E. coli	LSMRFR	17.9	32.8
H. sapien	F***L---F*K*VAPVP*IH	16.8	31.7
S. cerevisiae	F***LAH	14.6	27.8

FIGURE 3 continued

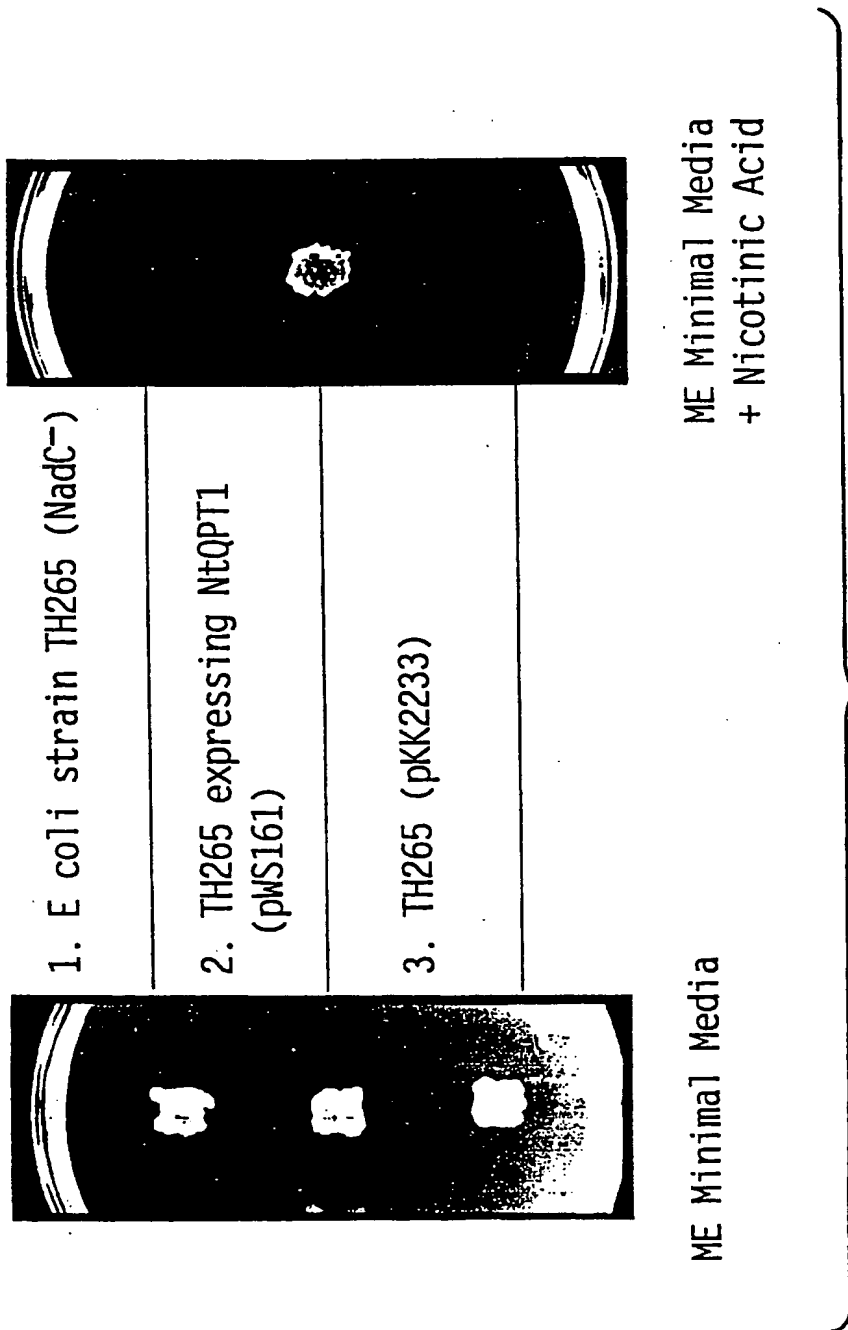
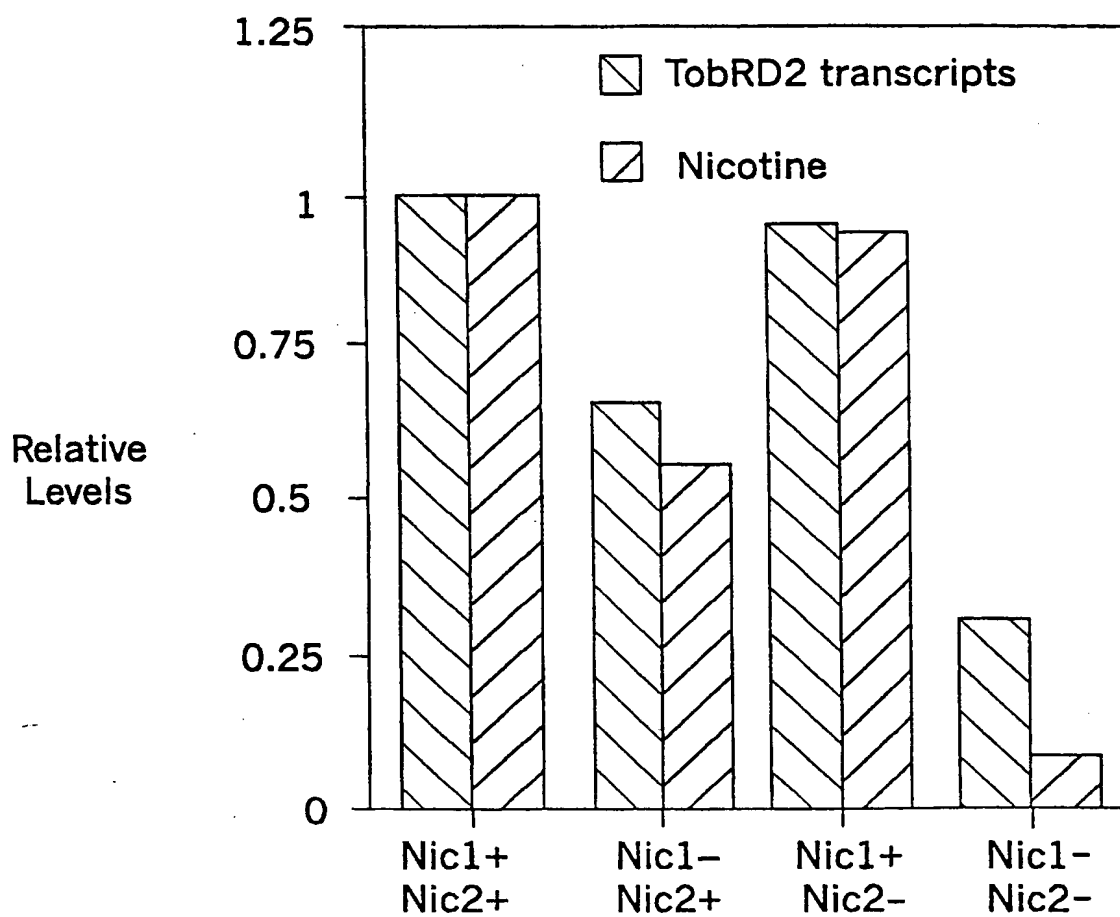


FIG.4

FIG. 5



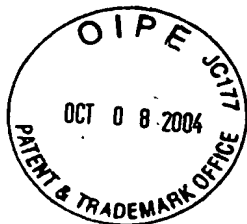


FIG. 6

